Magnetic Nanocrystal synthesis and its use in nanomedicine

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Nanocrystals (NCs) are promising building blocks which can be used as a single entity or assembled into more complex structures such as dumbbell-like heterostructures, micro capsules, or core-shell microparticles. In that context, it is crucial to study the correlation between the synthesis process and the final quality of the NCs. Besides, gram-scale and reproducible routes providing highquality NCs are highly desirable for developing advanced multifunctional platforms. In this presentation, I will review the different synthesis routes providing high-quality NPs and its assembly for creating a wide portfolio of multifunctional structures showing appealing applications in nanomedicine.